

REMARKS

Claims 1-7, 9-12, 14-18, 20-38 and 41-42 are present in the application. Claims 1, 25, 33, 36, 38 and 41 have been amended. Claim 8 has been canceled in this paper.

The amendment of the foregoing claims specifically highlights the fact that in the claimed structures, the berth mattress comprises “a plurality of mattress segments” and the support structure includes “a plurality of joints.” No new matter is introduced by the latter amendments and it is supported by the specification, paragraphs 0030, 0031, 0032 etc., original claims, for example, claims 8, 17, 18 etc. and the drawings.

The Examiner has rejected claims 1-12, 14-18, 20-38 and 41-42, all of the claims in the case under 35 U.S.C. 103(a) as being unpatentable over Cantu (US 6056239) and further in view of Ballard (US 3667075).

As defined in all of the amended claims, the applicants include the features of a berth mattress comprising a plurality of segments, a support structure having a plurality of joints, at least one inflatable member which articulates said support structure into a plurality of segments and at least one pump actuating said at least one inflatable member and articulating at least a portion of both of the support structure and the berth mattress. The key is that the mattress and its support are adapted for being articulated by the inflatable member. The terms “articulates,” “articulated,” “articulating” are all used in the dictionary sense. The Academic Press Dictionary of Science and Technology (Harcourt Brace and Jovanovich Publishers) defines these terms as “to form a joint, divided into or united by joints, connected by movable joints, consisting of separate segments jointed so as to be movable with respect to each other...” The term “articulated arm” is defined as “a manipulator arm with several joints...”

The Examiner's rejection of the claims as obvious over Cantu alone or in view of Ballard cannot be maintained.

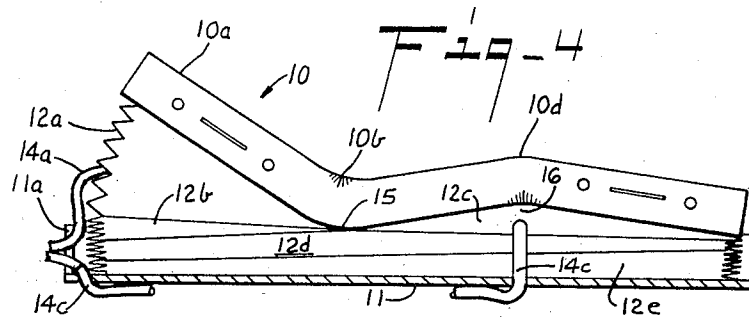
The Examiner considers that Cantu teaches a crew rest support system for use on an aircraft comprising a berth enclosure and a berth mattress and expressly recites that "what Cantu doesn't teach is a pneumatic system and related inflatable members or support structure to adjust the mattress position." He relies on Ballard to supply this omitted technique, i.e., that it would have been obvious to one skilled in the art to combine Cantu and Ballard as Ballard teaches a pneumatic system (abstract and fig 1-10), an inflatable member (12b, c, d) which articulates, a support structure (bellows 12a) and at least one pump actuating said inflatable member (air supply 37).

The Cantu patent is directed to a convertible seating and sleeping accommodation for an aircraft in which the structure at issue is convertible from a sitting position to a reclining position. The units are modular and are formed of distinct elements, i.e., a seat bed element formed by a back structure seat cushion and leg rest, all supported with a jointed frame device, all of the elements are combined to form a "sliding fold-out" motion system which allows the passenger to adjust the seat bed to any position from sitting to completely horizontal.

The Examiner's suggestion that there would be motivation to combine Cantu with Ballard is not there when one considers the differences in structures. The hospital bed mattress of Ballard relies on inflated spring bellows segments. The spring bellows segments provide for positional adjustments of the mattress as well as for other uses. The mattress as is clear from the many Ballard drawings is a unitary, unsegmented article and the different positions are achieved by bending of the mattress, i.e., to provide a raised

head pattern. The patent refers to “a transversely (sic) bondable mattress.” In the applicants’ structure, the mattress has multiple segments that are coupled sequentially, for example, with flex joints, pivot joints and the like, that allow for bending, extension and flexing thereof. The joints in particular allow the mattress to be articulated and to be conformed into various orientations.

The Ballard structure is not capable of such activity.



Ballard

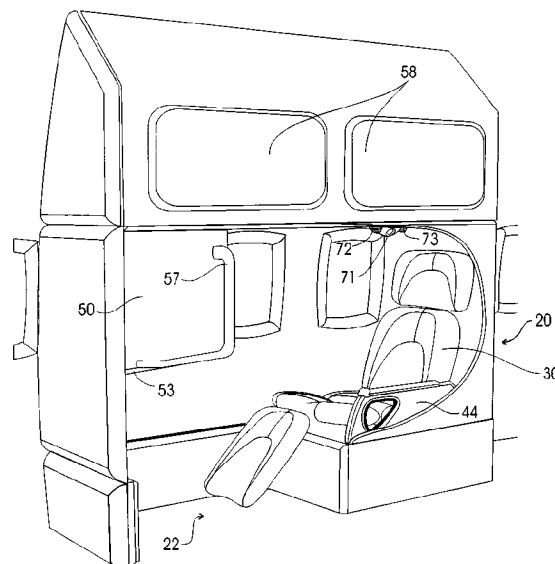


FIG. 3a

Cantu

It should be apparent that Cantu having a rigid seat, does not lend itself the pneumatic installation proposed by the Examiner.

The applicants' invention is not suggested by the combination since even if resorted to the flexibility, the ability to be articulated and conformed to numerous orientations provided by the invention could not be achieved.

Neither Cantu nor Ballard suggest or teach "articulation" and certainly not in the sense used by the applicants and in the standard dictionaries.

Everyone of the independent claims includes or provides for articulation of the bed mattress and the support structure. Such limitation(s) are not suggested by the references, therefore the rejection of the dependent claims showing preferred embodiments of the invention cannot be maintained in the absence of a teaching by the references singly or in combination of all of the limitations as set forth in the independent claims and therewith in the dependent claims.

This is true with respect to claims 2, 3-6, 7, 9, 10, 11, 12, 14-16, 17, 18, 20, 24, 26, 27, 28, 37, 29, 30, 31, 32, 34, 35, 38, 41 and 42 (see pages 3-5 of the office action).

The Examiner has rejected claims 21 and 22 under 35 U.S.C. 103(a) as being unpatentable over Cantu in view of Ballard and further in view of Le Gette (US 6698827). Cantu and Ballard are relied on as above (claims 1 and 20) but the Examiner notes that they are absent a teaching of a deployable, flexible arm rest that articulates with the bending of the mattress. Le Gette is relied on as teaching a flexible arm rest (40) that retracts and deploys with the articulation of the back with respect to the seat (33), the motivation being to create a light arm rest that is set up and stowed without intervention of the user while the seat and back are articulated with respect to one another. The

Examiner concludes that it would have been obvious to one skilled in the art to combine Le Gette with Cantu in view of Ballard to add a flexible deployable arm rest that articulates with a crew berthing unit.

The applicants incorporate by reference their discussion above with respect to Cantu and Ballard and the failure of either singly or in combination to suggest or teach the invention.

Le Gette is directed to a collapsible chair, i.e., beach, hiking or patio chair that would not be considered in designing an aircraft articulating berth system. It is non-analogous art.

In his rejection, the Examiner states that “Le Gette teaches a flexible arm rest (40)...” 40, 70 are identified as tension members which are coupled to the frame 100. As described, for example, at column 4, lines 41 et seq., the tension member is an elongated fabric strap. Alternatively, the strap can be rope, cord, webbing or any other structure that can provide a tensile force. (see column 4, line 33-column 5, line 22 and column 6, lines 33-39). The structures and elements (see Figs. 9-10, 13 and 15 for example) are so different that it can not be seen how the artisan even if knew of Le Gette would make the modification suggested by the Examiner.

SUMMARY

It is submitted that all of the claims in the application are allowable to the applicants and notification to this effect is respectfully requested.

Respectfully submitted,

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Date

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